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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/502,216	11/16/2005	Anne-Valerie Ruzette	033808.197	9182

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WASHINGTON, DC 20036

EXAMINER

MULLS, JEFFREY C

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

10/20/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/502,216

**Applicant(s)**

RUZETTE ET AL.

**Examiner**

Jeffrey C. Mullis

**Art Unit**

1796

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12, 14-18, 20, 24-28 and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12, 14-18, 20, 24-28 and 31-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Claims 12, 14-18, 20, 24-28 and 31-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "nature" is unclear in that it is subjective as to when one material is of the same nature as another.

The term "styoI" is not art recognized and is therefore unclear. The phrase "the choice of this ratio depends on the viscosity/impact reinforcing compromise which it is desired to have" renders the claims unclear since the claims are not limited to any desired "viscosity/impact reinforcing compromise".

The phrase "for pressures ranging from 0.100 bar to 80 bar" renders the claims unclear since it can not be determined if the claims are limited to pressures of 0.100 to 80 bar and if not whether the claims are limited to temperatures of 60-250 degrees.

The phrase "the other radicals having the same meanings as above" renders the claims unclear in that no "other radicals" aside from those already defined are present in the structure.

At least claim 27 and those dependent thereon are unclear in that applicants block copolymer itself is disclosed to have impact modifying properties and it is therefore ambiguous as to whether an additional material other than the block copolymer is required by these claims. The term "average molar mass" is unclear since molar masses of macromolecular materials exist as a distribution which therefore vary depending on the type of average intended (i.e. weight or number average) and as the type of distribution intended is not stated the claims are unclear.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 14-18, 20, 24-28 and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guerret et al. (WO 00/71501, using 6657043 as a translation) in view of Fischer et al. (US 6,239,226) and further in view of Coran et al. (US 4,473,683) and optionally Datta (US 4,999,683).

See the Office action of 8-5-08 at page 4, lines 1 et seq. While Fishcher specifically discloses the addition of polystyrene-polyacrylate-polystyrene block copolymer to matrices including polystyrene, applicants do not appear to agree that the is sufficient motivation to select specifically polystyrene as the matrix to be impact reinforced. However, Datta at column 2, lines 34-50 specifically discloses that blocks in a block copolymer should be identical the matrix for maximum compatibility. Hence it would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to specifically select the polystyrene of Fischer for impact modification of polystyrene polyacrylate polystyrene block copolymer of the primary reference in order to maximize impact strength absent any showing of surprising or unexpected results. With regard to claim 35, patentees do not in general disclose the amount of polystyrene in their block copolymer and therefore imply that any amount will work. Hence it would have been obvious to a practitioner having an ordinary skill in the art at

the time of the invention to use applicants amounts of polystyrene in the end blocks of the primary reference in the expectation of adequate results absent any showing of surprising or unexpected results. In any case Datta specifically disclose the use of applicants amount of "A" block at column 2, lines 25-30 and use of Dattas' amounts of "A" blocks in the process of Guerret as modified by Fischer would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention in the expectation of workable results as taught by Fischer absent any showing of surprising or unexpected results.

Claims 16 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guerret et al. (WO 00/71501, using 6657043 as a translation) in view of Fischer et al. (US 6,239,226) and further in view of Coran et al. (US 4,473,683) and optionally Datta (US 4,999,683) as applied to claim 12 above and optionally further in view of Pourallmady (EP 0947527).

Since the reaction features for forming applicants block copolymer are taught by the primary reference it would reasonably appear that applicants and Guerrets' polydispersities are inherently the same. However, applicants may not agree.

.See the Office action of 8-5-08 at page 6, lines 9 et seq.

Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guerret et al. (WO 00/71501, using 6657043 as a translation) in view of Fischer et al. (US 6,239,226) and further in view of Coran et al. (US 4,473,683) and optionally Datta (US

4,999,683) as applied to claim 12 above and further in view of Billovitis et al (WO 98/52978).

See the Office action of 8-5-08 at page 7, lines 6 et seq.

Applicant's arguments filed 8-12-09 have been fully considered but they are not persuasive.

Applicants argue that "it appears that the Examiner neglects the fact that Fischer's novel block copolymers are tri-block copolymers.. and that these triblock copolymers themselves are indicated as being suitable as impact modifiers". However the examiner has not ignored these features of Fischer and in fact are the basis of the motivation proposed to modify the primary reference. Fischer specifically discloses impact modification of polystyrene with their block copolymers at column 4, lines 42-54 and those skilled in the art would expect that the polystyrene block in patentees' polystyrene-polyacrylate-polystyrene block copolymer would inherently be compatible with polystyrene matrix polymer since both the "A" block and polystyrene are polystyrene. Note that Datta (US 4,999,403) at column 2, lines 34-50 discloses it is known in the art to match the type of block with that of the matrix polymer to maximize compatibility. The term "impact modifier" is understood in the art to refer to a material which increases impact strength. In any case the issue of increased impact strength is

immaterial to any limitation in the claims since none of the claims require an increase of impact strength upon addition of applicants block copolymer but rather recite "being of the same nature or compatible (emphasis added)".

If applicants still wish to have an interview they may contact the Examiner to schedule a time for one after reviewing the above newly cited art.

Any inquiry concerning this communication should be directed to Jeffrey C. Mullis  
M-F, 9-5 pm at telephone number 571 272 1075.

Jeffrey C. Mullis  
Primary Examiner  
Art Unit 1796

JCM

10-15-09

/Jeffrey C. Mullis/

Primary Examiner, Art Unit 1796